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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/080,989 10/17/00 TOUNASHIMA

Y 04329-1952-0

MM91/0412

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.
1300 I STREET, NW
WASHINGTON DC 20005

EXAMINER

RAD, S

ART UNIT

PAPER NUMBER

2814

DATE MAILED:

04/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.

09/688,989

Applicant(s)

TSUNASHIMA ET AL.

Examiner

Steven H. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/17/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 12 and 26-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 12 and 26-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Applicants' Preliminary amendment filed October 17, 2000 has been entered on February 26, 2001. Applicants' cover letter of October 17, 2000 in paragraph 3 states , " Cancel claims 1-11 and 13-25 " The preliminary amendment is silent as to claims 1-11 and 13-25.

The following Office Action is based on the assumption that claims 1-11 and 13-25 are cancelled and claims 12,27 and 28 as amended by the preliminary amendment, claims 26 and 29 as originally filed and claims 30-32 as newly added by the amendment are currently pending in the application.

Specification

The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

The following order or arrangement is preferred in framing the specification :

(b) Cross-References to Related Applications.

The specification first paragraph should state the parent case along with its status namely " This is a division of U.S. Serial No. 09/105,958 filed June 29, 1998 now U.S. patent No. 6,184,083."

Claim Rejections - 35 USC § 112

Claims 12 and 26- 32 are objected to for bring in improper Markush format . Applicants' use the language "and/or", which is not accepted. The proper language is either "and" or "or".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kume et al. (U.S. patent No. 5,188,976, herein after Kume).

With respect to claim 12, Kume describes a semiconductor device including : a substrate (Kume fig. 4 # 11, col. 7 line 47), first (fig. 4 # 18- 20, col. 8 line 15) and second gate insulator films (fig. 4 # 27 , col. 10 line 55) of different thickness (fig. 4 18 & 20 thicker than 27) and different materials (19 is silicon nitride and 27 is silicon oxide).first and second electrodes made of different thickness and materials (fig. 4 first Nmos with s/d 29,30 and second PMOs with s/d 31,32) and are coplanar (fig. 4, fig. 18).

With respect to claim 27, Kume in addition to the teachings under claim 12 above, in figs. 4 and 18 and col. 13 lines 40-45 teaches the formation of two different transistors in two different areas.

With respect to claim 28, Kume in addition to the teachings under claim 12 above, wherein a part of the side of the first gate is connected to a part of the side of the second gate (fig. 18 , col. 9 lines 35-42) and wherein the part of the sides are substantially perpendicular to the substrate surface. (see previous sentence 35 is perpendicular to 11).

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With respect to claim 26 , it recites the elements of claims 27 and 28 and therefore see discussion under claims 27 and 28 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29- 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kume.

With respect to claims 29 and 30, they recite the gate electrodes being formed by damascene process . Damascene is a well-known process and Kume describes several methods of forming gate electrodes by well-known methods (see Col. 4 lines 10,19 etc.).

With respect to claim 31, it recites a first thinner insulator film is included in the logic circuit (figs. 4 and 18,) and the second transistor is included in a memory cell(fig. 18).

With respect to claim 32, in addition to the elements of claim 28, it recites that the gate electrodes and the connection layer are coplanar. Kume in fig. 18 shows the electrodes being coplanar and the connection layer being non-planar. However it is an obvious design choice to make the connection layer also coplanar if additional layers or

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devices are to made on top of the electrodes and the connection layer, especially in the Applicants' claimed Damascene process wherein 6-7 layered structures are common.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is 703-306-5945. The examiner can normally be reached on M-F, 8.00 to 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703- 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703- 308-0956.



April 6, 2001



OLIK CHAUDHURI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800